

**THIGPEN LEGAL, P.C.**  
Jordanna Thigpen (SBN 232642)  
9595 Wilshire Boulevard, Ste. 961  
Beverly Hills, CA 90212  
T: (310) 210-7491  
F: (310) 362-0456  
Email: jt@thigpenlegal.com

**HART MCLAUGHLIN & ELDRIDGE**  
Steven A. Hart, Partner (to be admitted *pro hac vice*)  
Stewart M. Weltman, Of Counsel (to be admitted *pro hac vice*)  
One South Dearborn, Suite 1400  
Chicago, Illinois 60603  
T: (312) 955-0545  
Email: sweltman@hmelegal.com; shart@hmelegal.com

*Additional Counsel Listed on Signature Page*

**IN THE UNITED STATES DISTRICT COURT  
FOR THE CENTRAL DISTRICT OF  
CALIFORNIA**

RICHARD POOLE, on behalf of himself  
and all others similarly situated,

Plaintiff,

v.

QUINCY BIOSCIENCE HOLDING  
COMPANY, INC., a Wisconsin  
corporation; QUINCY  
BIOSCIENCE, LLC, a Wisconsin  
limited liability company;  
PREVAGEN, INC., a Wisconsin  
corporation, d/b/a SUGAR RIVER  
SUPPLEMENTS; QUINCY  
BIOSCIENCE MANUFACTURING,  
LLC, a Wisconsin limited liability  
company; MARK UNDERWOOD,  
individually and as an officer of  
QUINCY BIOSCIENCE HOLDING  
COMPANY, INC., QUINCY  
BIOSCIENCE, LLC, and  
PREVAGEN INC.; MICHAEL  
BEAMAN, individually and as an  
officer of QUINCY BIOSCIENCE  
HOLDING COMPANY, INC.,  
QUINCY BIOSCIENCE, LLC, and  
PREVAGEN INC.,  
Defendants.

**COMPLAINT FOR DAMAGES  
AND RESTITUTION**

**CLASS ACTION**

**DEMAND FOR JURY TRIAL**

Plaintiff RICHARD POOLE brings this action on behalf of himself and all others similarly situated against Defendants QUINCY BIOSCIENCE HOLDING COMPANY, INC., a corporation; QUINCY BIOSCIENCE, LLC, a limited liability company; PREVAGEN, INC., a corporation, d/b/a SUGAR RIVER SUPPLEMENTS; QUINCY BIOSCIENCE MANUFACTURING, LLC, a limited liability company; MARK UNDERWOOD, individually and as an officer of QUINCY BIOSCIENCE HOLDING COMPANY, INC., QUINCY BIOSCIENCE, LLC, and PREVAGEN INC.; MICHAEL BEAMAN, individually and as an officer of QUINCY BIOSCIENCE HOLDING COMPANY, INC., QUINCY BIOSCIENCE, LLC, and PREVAGEN INC. (together, “Defendants”) and alleges upon personal knowledge as to his own acts and experiences and, as to all other matters, upon information and belief:

### **FACTUAL ALLEGATIONS**

#### ***Prevagen***

1. Surveys show that people over 50 are more fearful of memory loss/Alzheimer’s/dementia than they are of cancer.

2. Since at least the fall of 2007, Defendants have manufactured, distributed, marketed, and sold a purported brain health supplement: Prevagen. The “Prevagen Products” are currently marketed as a dietary supplement that purportedly provides a variety of brain health and brain function claims such as providing “healthy brain function”, “memory improvement,” “sharper mind” and “clearer thinking”<sup>1</sup>.

3. And while the package labeling may have changed over the years the same consistent message is made – take Prevagen and you will get

---

<sup>1</sup> See, e.g., <https://prevagen.com/>; <https://prevagen.com/collections/brain-health-memory-improvement-supplements> (last visited February 26, 2024).

1 the above-represented brain health benefits.

2 4. Defendants have also engaged in widespread nationwide  
3 marketing campaigns over the television networks – in fact, it’s hard to  
4 avoid seeing a television ad for Prevagen when you watch any of the major  
5 cable networks.

6 5. The television ads convey the same messages, with mostly older  
7 people endorsing the product in the advertisements.

8 6. For instance, one of these ads is about a person named  
9 “Douglas” who was paid to make his testimonial and who claimed that he  
10 was over 65 and from Chicago, Illinois. In the ad he claims that he is  
11 surrounded by younger people in his work as a writer. He then states that he  
12 “had to get help somewhere along the line to stay competitive” and “I  
13 started taking Prevagen and overtime my memory improved – it was a game  
14 changer for me.”<sup>2</sup>

15 7. The sole active ingredient that is represented by Defendants as  
16 providing these brain health benefits is a synthetically-made dietary protein  
17 called apoaquorin.

18 8. In its natural state, apoaquorin is found in certain jellyfish and  
19 is the matter that causes these jellyfish to illuminate.

20 9. The synthetic apoaquorin manufactured and sold by  
21 Defendants does not illuminate.

22 10. Knowing full well that Prevagen does not and cannot provide  
23 brain health benefits, and as noted below, having admitted as such to the  
24 FDA in 2016, Defendants through their uniform marketing messages on  
25 their labeling, on television and on their website (<https://prevagen.com>)  
26 induce consumers albeit mostly elderly persons – and many on fixed

---

27 <sup>2</sup> See, e.g., <https://www.youtube.com/watch?v=-MNWQGbXA2A>.

1 income – to pay approximately \$60 a month for a product that is worthless.

2 **Defendants’ Search for an Angle to Market Inexpensively Made**  
 3 **Synthetic Apoeaquorin**

4 11. The purported connection between Defendants’ synthetic  
 5 apoeaquorin and brain health is the byproduct of a scientific misnomer that  
 6 came to its creator, Defendant Mark Underwood, in what he claims was an  
 7 epiphany.

8 12. In fact, how Underwood and Quincy arrived at apoeaquorin as  
 9 a supplement that purportedly provides brain health benefits is a tortured tale  
 10 that itself demonstrates that Underwood and Quincy merely searched for a  
 11 use for cheaply made synthetic apoeaquorin so that they could make  
 12 millions off of unsuspecting consumers.

13 13. Defendant Underwood authored a book in 2007 entitled “Gift  
 14 From the Sea” in which he details how he supposedly “discovered”  
 15 apoeaquorin’s purported brain health benefits.

16 14. The story told by Underwood purports to start when, as an  
 17 undergrad at the University of Wisconsin Milwaukee, he somehow became  
 18 intrigued with whether apoeaquorin “might protect brain cells and through  
 19 that process, guard against neurodegenerative conditions like Alzheimer’s,  
 20 Parkinson’s and stroke.” *See* Mark Y. Underwood, *Gift From the Sea*  
 21 (AuthorHouse 2007), attached as **Exhibit 1A**.

22 15. Thus, Underwood writes, he began recording copious notes  
 23 about his “vision” of “using jellyfish protein to slow down memory loss and  
 24 aging, an idea that seemed too good to be true....” *Id.* And it was – for  
 25 Underwood and his co-Defendants but not for consumers.

26 16. According to Underwood, “I took that interest to the next level  
 27 after reading a case study<sup>3</sup> about a patient who contracted the symptoms of

28 <sup>3</sup> Even though this case study had nothing to do with brain health, it should be noted

Guillain-Barre Syndrome after a jellyfish sting and was successfully treated with calcium channel blockers.” See Underwood, attached as **Exhibit 1B**.<sup>4</sup>

17. According to Underwood it was less significant to him that the person’s Guillain-Barre symptoms improved to “some extent” because what “fascinated” him was that “jellyfish could inflect his problem, yet not suffer from it within its own simple nervous system.” *Id.*<sup>5</sup>

18. From this he supposedly had many questions: (1) “What is calcium’s role in damaging the nervous system?” (2) Can mediating calcium fight neurological conditions? (3) How can jellyfish deliver a sting and not suffer any neuropathy? [and most important] (4) “Why doesn’t a jellyfish poison itself?” Underwood, attached as **Exhibits 1B and 1C**.

19. Intriguing questions – but reflecting a lack of basic knowledge such as that: (1) Calcium’s role and its levels, at least in the brain, are tightly controlled (*e.g.* mediated) by the brain itself to help maintain the nervous system – as too much calcium can be just as bad as too little.

20. What connection any of Underwood’s opinions had to apoeaquorin is opaque at best and actually pure fantasy as far as real science is concerned.

21. For instance, his logic about the benefits of supplemental

---

that case studies about a single individual is a type of clinical evidence that cannot be relied upon to reach any conclusions about the efficacy of the substance being tested – *e.g.* in this case channel blockers to treat a jellyfish sting. See Patricia B. Burns *et al.*, *The Levels of Evidence and their Role in Evidence Based Medicine*, 128 *Plast. Reconstr. Surg.* 305, 305-310 (2011), attached hereto as **Exhibit 2**.

<sup>4</sup> Calcium channel blockers are used to lower blood pressure by preventing calcium from entering the cells of the heart and arteries – they have nothing to do with brain health. *Calcium Channel Blockers*, Mayo Clinic (Aug. 23, 2023), attached hereto as **Exhibit 3**.

<sup>5</sup> Of course, there is nothing unique or fascinating about this, as numerous venomous animals, plants, and the like do not suffer from their own poisons.

1 calcium-binding proteins was as simplistic as it was wrong. As Underwood  
2 saw it, “after all, it had long been documented in the medical community  
3 that the depletion of calcium-binding proteins was associated with aging and  
4 the onset of neurological diseases. Why not just add these valuable proteins  
5 back into the body [via apoaeguorin].” See Exhibit 1A.

6 22. But again, it needs to be repeated – the brain tightly controls  
7 the levels of calcium because too much can be as bad as too little. So even if  
8 Prevagen did add these “valuable proteins” into the body, which it does not,  
9 more is not better when it comes to calcium and the brain.

10 23. Nevertheless, Underwood relates yet another most convenient  
11 event – Underwood met a molecular biologist during a volleyball game and  
12 mentioned that he was interested in studying jellyfish proteins. Loand  
13 behold this person said he too was intrigued with apoaeguorin and better yet  
14 he knew how to make it in a lab. See Exhibit 1D, attached hereto.

15 24. As Underwood exclaimed in his book, “What were the odds  
16 that I would meet, during a volleyball game, one of the few people in the  
17 world who knows how to make this remarkable protein?” *Id.*

18 25. Of course, there is nothing remarkable about how synthetic  
19 apoaeguorin is made – as set forth in Quincy’s GRAS (Generally Regarded  
20 as Safe) document submitted to the FDA in 2016, in response to a warning  
21 letter issued by the FDA to Defendants, synthetic apoaeguorin is “a  
22 standardized protein preparation produced by microorganism recombinant  
23 technology” – a technology that has been used since the 1970s to produce  
24 various recombinant proteins.

25 26. But there was even more serendipity to Underwood’s fishy tale.  
26 Underwood writes that he then met with Defendant Beaman, who as it just  
27 turned out, was interested in diversifying his investments so: “That day we  
28 sketched out a business plan on a lunch napkin for a new company called

1 Quincy Bioscience. Our goal? To take this jellyfish protein and create a  
2 *drug* to help fight Alzheimer’s disease and other related neurodegenerative  
3 conditions.” See **Exhibit 1E**, attached hereto.

4 27. And that’s how Underwood, Beaman and Quincy first  
5 marketed Prevagen – not as a dietary supplement to help support brain  
6 health and function – but as a *drug* to treat diseases like Alzheimer’s and  
7 other similar conditions.

8 28. Apparently, Underwood and Beaman did not know that the  
9 FDA considers claims about Alzheimer’s and other dementias as disease  
10 claims, requiring that the claims they were making about Prevagen be  
11 subject to the FDA’s new drug approval process (“NDA”).

12 29. But they learned later on when, as discussed below, the FDA  
13 issued Quincy a warning letter in 2012 about its marketing Prevagen as a  
14 drug without prior FDA approval.

15 30. Admittedly, the human brain’s neurons (the cells in our brains  
16 that govern its functions) do require calcium-binding proteins to perform  
17 their functions.

18 31. But, as opposed to Underwood’s unscientific notions of the  
19 brain and its health as reflected in his book and in Defendants’ marketing  
20 and sale of Prevagen, the brain does not need nor would it accept help from  
21 the outside, such as synthetic apoeaquorin, as the brain endogenously makes  
22 its own calcium-binding proteins.

23 32. In fact, apoeaquorin is not one of the calcium-binding proteins  
24 that are made by the brain, so it’s hard to fathom, how apoeaquorin would  
25 be used by the human brain even if it ever got in, particularly since after  
26 millions of years of evolution, what the brain needs and what it uses have  
27 been carefully developed through evolution and, as a result, what gets into  
28 the brain is tightly regulated and controlled by something called the blood-



1 brain-barrier (“BBB”).

2 33. It is true that, as we age, like everything else in our bodies, the  
3 brain’s ability to make calcium-binding proteins slow down.

4 34. But this does not mean that, as a result, the brain requires more  
5 calcium-binding proteins from outside the brain.

6 35. That is because, the regulation of the levels of calcium-binding  
7 proteins and thus calcium in the brain is tightly and continuously controlled  
8 by the brain itself to maintain proper levels as needed in its various areas –  
9 as sometimes areas in the brain require more calcium but at other times they  
10 require less calcium.

11 36. In this sense, calcium is not a more-is-better substance when it  
12 comes to the brain and any purported interference from the outside, such as  
13 the introduction of apoeaquorin into the brain in any material amount would  
14 pose a risk of upsetting that balance, and since it would be foreign to the  
15 brain, could likely cause an immune response/reaction in the brain that  
16 could be deleterious.

17 37. And as discussed below, that is one of the many reasons why if  
18 a molecule of intact apoeaquorin survived digestion (which as set forth  
19 below is not possible) and arrived at the brain, it would not be allowed to  
20 enter.

21 38. Yet, the sole scientific premise upon which Defendants have  
22 built their claims that Prevagen provides its supposed brain health benefits  
23 is that Prevagen supposedly provides more calcium-binding proteins to the  
24 brain. In fact, in the 2016 published version of a highly flawed clinical  
25 study called the Madison Memory Study (“MMS”) Underwood and his co-  
26 authors asserted, without any reliable scientific support, that apoeaquorin  
27 works by regulating the levels of calcium in the brain. *See* Daniel L. Moran,  
28 Mark Y. Underwood, Taylor A. Gabourie & Kenneth C. Lerner, *Effects of a*



1 *Supplement Containing Apoeaquorin on Verbal Learning in Older Adults in*  
 2 *the Community*, 30 *Advances in Mind-Body Medicine* 1 (2016), attached  
 3 hereto as **Exhibit 4**.

4 39. Moreover, as will be seen below, Underwood and Quincy's  
 5 crude and unscientific illogic about why Prevagen and its so-called unique  
 6 calcium-binding protein might work, ignores such things as that: (a) once  
 7 Prevagen hits the stomach it is no longer a calcium-binding protein, as it is  
 8 protolized by the first of a torrent of enzymes in the stomach and then is  
 9 assaulted in the intestines by a battalion of digestive enzymes, such that by  
 10 the end of the digestion process, it is completely digested/hydrolyzed into  
 11 common amino acids like all other dietary proteins; (b) even then the  
 12 amount of calcium that would be bound by an undigested 10 mg dose of  
 13 Prevagen is negligible (about 10,000 times less than our daily  
 14 requirements); and (c) if for some reason a molecule of apoeaquorin  
 15 survived digestion and somehow arrived outside the brain, it would be  
 16 prevented from entering the brain because the BBB blocks molecules with  
 17 masses over 0.4-06 kilodaltons or that are hydrophilic (soluble in water) –  
 18 and apoeaquorin has a mass of approximately 22 kilodaltons and is highly  
 19 soluble in water. So Prevagen's apoeaquorin just cannot enter nor affect the  
 20 brain in the manner that Defendants represent.

21 40. In fact, the BBB and its impermeability is one of the primary  
 22 reasons why treatments for such ailments as brain cancer or Alzheimer's  
 23 have failed and scientists have been struggling for decades searching for the  
 24 means of getting these treatments – drugs that might actually work – to the  
 25 brain for the treatment of diseases.

#### 26 **The FDA Steps In and Issues Warning Letters**

27 41. But the actual science did not deter Defendants. At the  
 28 beginning of the promotion of Prevagen, starting in 2007, Mr. Underwood

1 and Quincy made a series of outlandish claims about Prevagen that involved  
2 its treating dementia, Parkinson's disease, and other neurological  
3 conditions.

4 42. These claims were made without an iota of clinical research on  
5 Prevagen and its purported treatment of human diseases, and instead were  
6 claimed by Underwood and others promoting Prevagen based upon the  
7 speculative claim that apoaequorin regulated calcium levels in the human  
8 brain.

9 43. As noted above, such claims were actually illegal disease  
10 claims that amounted to Prevagen being sold as a drug without ever gaining  
11 drug approval from the FDA. In 2012, the FDA caught up with Defendants.  
12 And while Plaintiff's claims here are not based upon Defendants' violations  
13 of FDA law by selling Prevagen as an unapproved drug, this background  
14 provides evidence as to how Prevagen eventually ended up being sold as a  
15 dietary supplement, devoid of any reliable scientific support and  
16 overwhelming science demonstrating why it could never provide such  
17 benefits.

18 44. Defendants' illegal marketing of Prevagen, as an unapproved  
19 drug, was raised in an October 16, 2012, warning letter from the FDA. *See*  
20 October 16, 2012 Warning Letter from Michael Dutcher, FDA Director, to  
21 Mark Underwood, President, Quincy Bioscience Manufacturing Inc.,  
22 attached hereto as **Exhibit 5**.

23 45. Thus, began a series of communications with the FDA and  
24 Defendants discussed in further detail below, which ultimately resulted in  
25 the Defendants admitting that once digested, Prevagen is no longer a  
26 calcium-binding protein but, instead, is completely digested into common  
27 amino acids like other dietary proteins – or to put it in simple terms –  
28 Prevagen has no more direct effect on brain health than a very minute piece

1 of baloney or any dietary protein.

2 46. This warning letter process also caused Defendants to shift  
3 their marketing claims to Prevagen as a dietary supplement, so they would  
4 hopefully avoid FDA's warnings about Defendants making illegal disease  
5 claims.

6 47. But the fact is that the story of Prevagen has always been about  
7 the Defendants trying to find a claim for a product that costs pennies to make  
8 but that could make them millions, while avoiding FDA scrutiny.

9 48. And the easiest route was to market Prevagen as a dietary  
10 supplement, as the federal dietary supplement laws do not require a dietary  
11 supplement manufacturer to submit the scientific evidence to support their  
12 labeling claims, but instead merely requires the supplement manufacturer to  
13 submit a letter before they begin selling the product that vouches that they  
14 have the required scientific support for their labeling claims.

### 15 **The False and Deceptive Marketing of Prevagen as a Dietary** 16 **Supplement**

17 49. Today, Prevagen is sold in virtually every major food, drug,  
18 and mass retail outlet in the country as well as online, where consumers can  
19 sign up to receive their Prevagen directly from Defendants every month.  
20 See <https://prevagen.com>.

21 50. If a consumer purchases online, here are just some of the false  
22 and misleading claims made on the website's first page:<sup>6</sup>

- 23 (a) "Prevagen is an over-the-counter supplement for healthy  
24 brain function and memory improvement citing to the MMS  
a wholly unreliable and scientifically unsound study;
- 25 (b) Prevagen "uniquely supports brain function"
- 26 (c) "Prevagen has been clinically shown to safely and  
27 effectively improve memory" (again referring to the MMS

28 <sup>6</sup> <https://prevagen.com/> (last visited February 26, 2024).

and attaching an unpublished version of one of the various versions of the MMS study that Defendants drafted over time to support their false marketing claims).

51. The website then offers up links to short blurbs containing various individual testimonials about Prevagen and if one then links to their videos, are the bottom left-hand corner, of the video, for a total of 4 seconds of a 90 second video, it states that these are paid endorsers – in short “Paid Testimonialists” for Defendants.

52. And yet again, despite the FDA’s warnings, when one clicks to a link Defendants provide regarding the purported safety of Prevagen, among the articles cited by Defendants is one that still concerns disease related claims about Prevagen “A brief review of three common supplements used in Alzheimer’s Disease”<sup>7</sup>; and (2) one involves a study in rats (an albeit horribly conducted study) that deals with whether Prevagen protects brain cells from injury in a simulated ischemic stroke.

53. And if one clicks on the “shop” link one sees pictures of the front labels of each Prevagen product<sup>8</sup> – all of which make the same uniform representations (summarized herein) on their front panels (the only differences between these products is their dosing and whether one chooses

---

<sup>7</sup> Although not a basis upon which Plaintiff relies to support his claims this is a direct violation of FDA’s proscription that supplement manufacturers cannot and should not refer to articles discussing the treatment of diseases in reference to their products. *See* FDA Act, 21 U.S.C. section 403(r)(1)(B); *see also* 21 C.F.R. section 101.14(a)(1) (2000) (“Implied health claims include those statements, symbols, vignettes, or other forms of communication that suggest, within the context in which they are presented, that a relationship exists between the presence or level of a substance in the food and a disease or health-related condition”), and FDA Regulations on Statements Made for Dietary Supplements Concerning the Effect of the Product on the Structure or Function of the Body, 65 Fed. Reg. 1021 at Section H (proposed January 6, 2000) (codified at 21 C.F.R. part 101).

<sup>8</sup> Only two are not part of this case – Prevagen Professional and Prevagen NeuroShake.

capsules or chewable). A screenshot of the labeling of each Prevagen product that is a focus of this case is set forth below. As is readily seen, other than differences in dosing<sup>9</sup>, the same labeling claims are made on every Prevagen product.

54. These label panels set forth below are representatives of any and all labels used during the class period, as if minor changes were made, the same false and misleading representatives were made by Defendants:



Supplement Facts		
Serving Size: 1 capsule		
Amount per capsule	% Daily Value	
Vitamin D (as D3 cholecalciferol)	50 mcg	250%
Apoaequorin	10 mg	†
† Daily Value not established.		

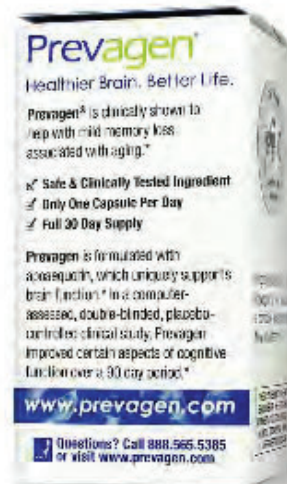
Other ingredients: microcrystalline cellulose, vegetable capsule (cellulose, water), maltodextrin, contains 2% or less of: casein peptides, lactose, magnesium stearate (vegetable source), modified corn starch, salt, soy peptides, sugar.

Contains Milk and Soy

Contains a bioengineered food ingredient.

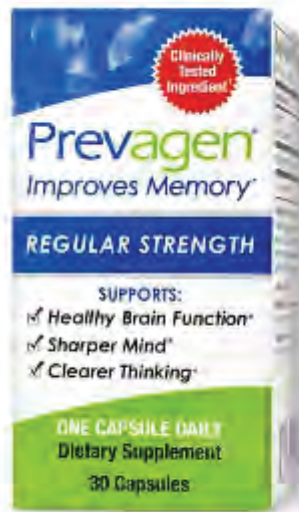
Distributed by: Quincy Bioscience Holding Company, Inc., Madison, WI 53717, USA

Suggested use: Take one capsule daily in the morning, with or without food.



<sup>9</sup> The “extra strength” dose is double the six of the regular strength products but, as alleged above, doubling the dose of apoaequorin does not improve the strength of the extra strength products as Prevagen, as any dose sold is worthless and incapable of providing any of the brain health benefits Defendants represent.





Supplement Facts		
Serving Size: 1 capsule		
Amount per capsule	% Daily Value	
Vitamin D (as D3 cholecalciferol)	50 mcg	250%
Apocaequorin <sup>®</sup>	10 mg	†
† Daily Value not established.		

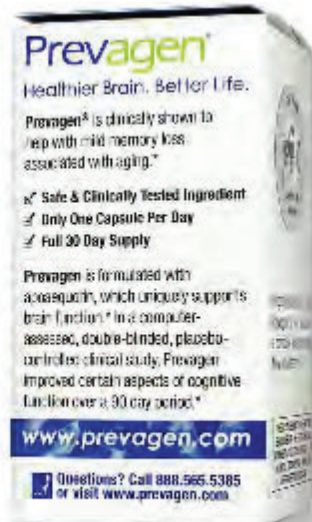
**Other ingredients:** microcrystalline cellulose, vegetable capsule (cellulose, water), methylcellulose, contains 2% or less of: casein peptones, lactose, magnesium stearate (vegetable source), modified corn starch, salt, soy peptones, sugar.

**Contains:** Milk and Soy

Contains a bioengineered food ingredient.

**Distributed by:** Quincy Bioscience Holding Company, Inc., Madison, WI 53717, USA

**Suggested use:** Take one capsule daily in the morning, with or without food.





Supplement Facts		
Serving Size: 1 capsule		
Amount per capsule	% Daily Value	
Vitamin D (as D3 (cholecalciferol))	50 mcg	250%
Apocaequorin	20 mg	†
† Daily Value not established.		

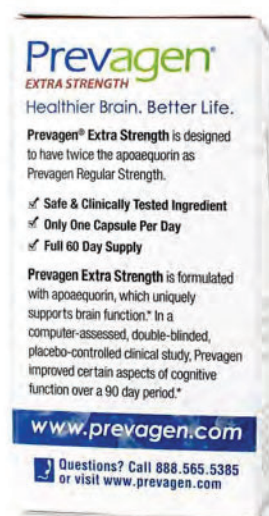
**Other ingredients:** microcrystalline cellulose, vegetable capsule (cellulose, water), methylcellulose, contains 2% or less of: casein peptides, lactose, magnesium stearate (vegetable source), modified corn starch, salt, soy peptides, sugar.

**Contains:** Milk and Soy

**Contains a bioengineered food ingredient.**

**Distributed by:** Quincy Bioscience Holding Company, Inc., Madison, WI 53717, USA

**Suggested use:** Take one capsule daily in the morning, with or without food.







Supplement Facts		
Serving Size: 1 Tablet		
Amount per tablet		% Daily Value
Total Carbohydrate	1 g	<1%**
Vitamin D (as D3 cholecalciferol)	50 mcg	250%
Apocaequorin	10 mg	†

\*\* Percent Daily Values are based on a 2,000 calorie diet.  
† Daily Value not established.

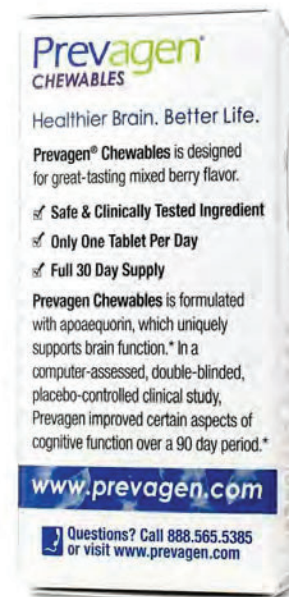
**Other ingredients:** Sorbitol, mannitol, natural flavors, contains 2% or less of beet juice powder (for color), casein peptides, lactose, magnesium stearate, vegetable source, maltodextrin, modified corn starch, organic egg white, organic riboflavin A (malt extract), salt, soy peptides, organic acid, sugar.

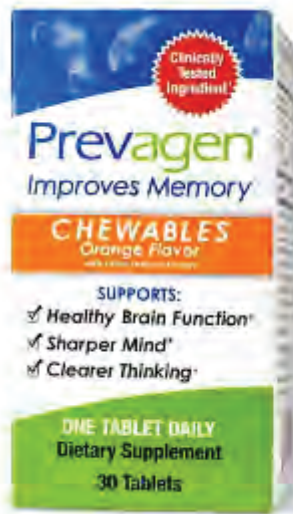
**Contains:** Milk and Soy

Contains a coloring derived food ingredient.

**Distributed by:** Quincy Bioscience Holding Company, Inc., Madison, WI 53717, USA

**Suggested use:** Take one tablet daily in the morning, with or without food.





Supplement Facts		
Serving Size: 1 tablet		
Amount per tablet		% Daily Value
Total Carbohydrate	1 g	<1%**
Vitamin D (as D3 cholecalciferol)	50 mcg	250%
Apoeaquorin	10 mg	†

\*\* Percent Daily Values are based on a 2,000 calorie diet.  
† Daily Value not established.

Other Ingredients: Sorbitol, mannitol, natural flavors,

contains 2% or less of: annatto extract (for color),

casein (protein), lactose, magnesium stearate

(vegetable source), maltodextrin, modified corn-

starch, organic agave inulin, organic rebaudioside A

(stevia extract), salt, soy lecithins, stearic acid, sugar.

Contains: Milk and Soy

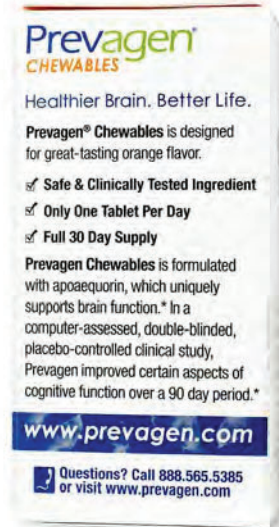
Contains a bioengineered food ingredient.

Distributed by: Quincy Bioscience Holding

Company, Inc., Madison, WI 53717, USA

Suggested use: Take one tablet daily in the

morning, with or without food.





Supplement Facts		
Serving Size: 1 tablet		
Amount per tablet	% Daily Value	
Total Carbohydrate	1 g	<1% <sup>***</sup>
Vitamin D (as D3 cholecalciferol)	50 mcg	250%
Apoaequorin	20 mg	†

<sup>\*\*\*</sup> Percent Daily Values are based on a diet of other people's secrets.  
† Daily Value not established.

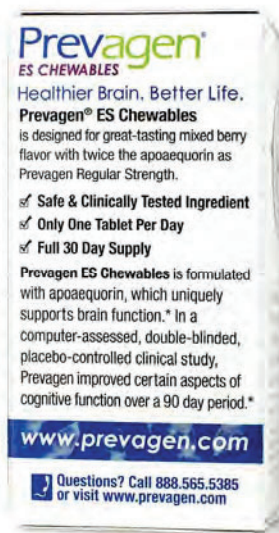
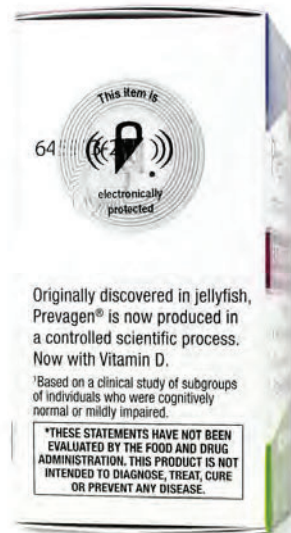
**Other ingredients:** Sorbitol, mannitol, natural flavors, contains 2% or less of (least) juice powder (for color), ascorbic acid, citric acid, lactose, magnesium stearate (vegetable source), maltodextrin, modified corn starch, organic agave inulin, organic rebaudioside A (stevia extract), salt, soy lecithin, stearic acid, sugar.

**Contains:** Milk and Soy

Contains a bioactive food ingredient.

**Distributed by:** Quincy Bioscience-Holding Company, Inc., Madison, WI 53717, USA

**Suggested use:** Take one tablet daily in the morning, with or without food.



55. And if one clicks on a product label on the website, one will see identical side panels with the only difference being that the extra strength doses are claimed to be “designed to have twice the apoaequorin as Prevacen regular strength” – no other statements as to how the extra dosing

1 might provide more or different benefits.<sup>10</sup>

2 56. One of the side panels on the Prevagen boxes states:  
3 “PREVAGEN – Healthier Brain. Better Life” which is followed underneath  
4 by “Safe and Clinically Tested Ingredient ... Prevagen is formulated with  
5 apoequorin, which uniquely supports brain function. In a computer-  
6 assessed, double-blinded, placebo-controlled clinical study, Prevagen  
7 improved certain aspects of cognitive functions over a 90 day period.” And  
8 this same message is conveyed on a page that contains this link.<sup>11</sup>

9 57. These same messages are on Prevagen packaging.

10 58. As the above illustrates, Prevagen is available in regular  
11 strength, extra strength, and mixed berry flavor chewable forms. The  
12 regular strength and mixed berry flavor products contain 10 mg of  
13 apoequorin per serving, while the extra strength products contain 20 mg of  
14 apoequorin per serving. A 30-count bottle of 10mg doses of Prevagen  
15 retails for \$39.95 (a 60-count bottle sells for \$74.95) and extra-strength sells  
16 for \$59.95 for a 30-count bottle (and \$109.95 for a 60-count bottle).

17 59. While Defendants have routinely changed the physical makeup  
18 of the boxes and bottles over time, the same brain health messages have  
19 always been conveyed as the ones discussed above along with the separately  
20 actionable misrepresentations that Prevagen is clinically tested.<sup>12</sup>

21 60. And throughout the relevant time period (class period),  
22

---

23 <sup>10</sup> [https://prevagen.com/products/prevagen-regular-strength-brain-health-](https://prevagen.com/products/prevagen-regular-strength-brain-health-memory-supplements)  
24 [memory-supplements](https://prevagen.com/products/prevagen-regular-strength-brain-health-memory-supplements) (last visited February 26, 2024).

25 <sup>11</sup> [https://prevagen.com/products/prevagen-regular-strength-brain-health-](https://prevagen.com/products/prevagen-regular-strength-brain-health-memory-supplements)  
26 [memory-supplements](https://prevagen.com/products/prevagen-regular-strength-brain-health-memory-supplements) (last visited February 26, 2024).

27 <sup>12</sup> Earlier versions said “clinically shown” but as part of a Florida-based claims made  
28 settlement that paid the class approximately \$900,000.00 and the lawyers  
approximately \$2,500,000.00, Defendants agreed to a meaningless change in the  
wording to “clinically tested.” The class here does not include any of the purchases  
that were subject to this prior class settlement.



1 Defendants have consistently conveyed the same message to consumers  
2 throughout the United States, including California, that Prevagen is  
3 “clinically tested” to “improve[] memory” and “support[]: healthy brain  
4 function, sharper mind, and clearer thinking” simply by taking a  
5 recommended daily dosage.

6 61. Defendant’s brain function and memory representations are  
7 false, misleading, and deceptive as are the clinically tested representations.

8 62. Yet, each and every consumer who purchases these Products at  
9 a brick-and-mortar store<sup>13</sup> or online, is exposed to the deceptive brain  
10 function and memory representations, which appear prominently and  
11 conspicuously on the front of each Prevagen box as discussed above as well  
12 as on Defendants’ website and on TV.

13 63. All of the above statements are false as (1) Prevagen does not  
14 supplement additional proteins for the brain to use; (2) the apoaeguorin in  
15 Prevagen is not a protein that “uniquely supports critical brain functions:  
16 and (3) more fully set forth below clinical studies do not support the wildly  
17 false claims about Prevagen and brain health/function representations made  
18 by Defendants.

19 64. Each Prevagen product is essentially the same, as each contains  
20 the same active ingredient, apoaeguorin, and as set forth herein, whether the  
21 product contains 10mg or 20mg of apoaeguorin makes no difference  
22 because the apoaeguorin contained in each is worthless for the same reasons  
23 – once ingested, apoaeguorin, in either capsule, chewable form or any form  
24 Defendants might choose, is completely digested into common amino acids  
25 and in this sense is no different from any other dietary protein.

---

26  
27 <sup>13</sup> On its web site Quincy claims that Prevagen is sold in over 50,000 stores  
28 nationwide.

65. And if, for some reason, some completely intact molecules of apoeaquorin survived the enzymatic onslaught that happens during digestion – which even Defendants admitted was not possible in a filing before the FDA in 2016 – and even if some of these molecules did not get snatched up by the over 1 trillion cells in our bodies and somehow ended up near the brain, they would not be able to gain entry into the brain because the blood brain barrier (“BBB”) would block entry.

66. Thus, the most compelling reason why Prevagen cannot do what Defendants claim it does is found in well-accepted body chemistry science – apoeaquorin, a dietary protein, is digested into common amino acids just like most other – non-allergenic- dietary proteins and can make no more contribution to brain health than a piece of baloney, turkey or hamburger – and very small pieces at that.

67. Once digested, apoeaquorin is no longer apoeaquorin, is not a calcium-binding protein (the feature that was the reason that Underwood believed apoeaquorin works to provide brain health benefits), and instead becomes elementary amino acids. As a result, it is incapable of providing the purported brain health, function, and memory benefits.

**In 2016, Defendants Admitted to the FDA that Prevagen is Completely Digested into Amino Acids Like Other Dietary Proteins – Or in Other Words – Prevagen Cannot Work as Represented<sup>14</sup>**

---

<sup>14</sup> While the FDA has not taken direct action against the Defendants and closed its files in 2018, in 2017 the FTC filed an action that is set for trial in the near term pending in the Southern District of New York, seeking to enjoin Defendants from making some of the false and deceptive representations set forth herein. *FTC et al. v. Quincy Bioscience et al.*, No. 1:17-cv-00124-LLS (S.D.N.Y.). Since private plaintiffs cannot bring injunctive relief claims for consumer fraud claims (*See Conrad v. Boiron*, 869 F.3d 536, 542 (7th Cir. 2017)) the claims asserted herein do not overlap those of the FTC case which, in turn, is precluded from seeking monetary

1           68. In another warning letter sent on November 21, 2013, the FDA  
2 noted that since the apoaquorin sold as Prevagen was synthetically made it  
3 was not a recognized food that humans had eaten on a large scale basis –  
4 precluding it from being sold as a dietary supplement.

5           69. The primary issue raised by the FDA in this regard was  
6 whether apoaquorin was allergenic.

7           70. In response to this letter, Defendants engaged experts to (1)  
8 conduct various commonly relied upon digestion studies of Prevagen and  
9 (2) interpret the results of these studies as well as other scientific evidence  
10 to determine whether apoaquorin was allergenic.

11           71. The results of these digestion studies were presented to the  
12 FDA by Defendants in an August 2014 letter.

13           72. This document – called a GRAS letter (Generally Accepted As  
14 Safe) was submitted to the FDA and was signed and approved by the  
15 President of Quincy Bioscience LLC, Defendant Mark Underwood.

16           73. The report from the experts contained in this GRAS letter  
17 opined that synthetic apoaquorin is “no more allergenic than other non-  
18 allergenic dietary proteins and similar to other common dietary proteins  
19 because Apoaquorin is digested or hydrolyzed to individual amino acids  
20 and then absorbed in the digestive tract.”

21           74. Their studies also suggested that the digestion characteristics of  
22 apoaquorin were similar to those of common non-allergenic dietary  
23 proteins.

---

24 relief (See *AMG Capital Management, LLC v. Federal Trade Commission*,  
25 141 S. Ct. 1341 (2017)). The State of New York has a claim for damages on  
26 behalf of New York residents in the above referenced FTC action against  
27 Defendants, and would overlap the damages claims here on behalf of New  
28 York residents. If the State of New York prevails *and* recovers damages on  
behalf of New York residents, Plaintiffs will not seek recovery for  
consumers in the State of New York.



1           75. Simply stated, the above statements provided to the FDA by  
2 Underwood and Quincy in its effort to convince the FDA that apoaeguorin  
3 is not allergenic, asserted that apoaeguorin is not allergenic because it is  
4 completely digested and, in turn, this document submitted by Quincy and  
5 Defendant Underwood, constitute admissions on Defendants' part that  
6 Prevagen cannot and does not work as they represent, as if apoaeguorin is  
7 completely digested into common amino acids it cannot work as represented  
8 any better than any other common dietary protein.

9           76. Moreover, the number of amino acids derived from one dose of  
10 10mg or 20mg Prevagen is trivial in terms of any other nutritional benefits  
11 let alone brain health benefits.

12           77. Our daily protein intake is approximately 75,000mg, yet the  
13 amount of amino acids produced by the digestion of a Prevagen 10mg dose  
14 is about 1/7500 or about 0.013% (0.025% for a 20mg dose) of the average  
15 intake of dietary intake of proteins.

16           78. Yet, a 10mg dose of Prevagen costs over \$1.00, making  
17 Prevagen a grossly overpriced dietary protein.

18           79. By way of comparison a hot dog wiener which costs about  
19 \$.50 - \$.75 contains about 5000mg of protein or 500 times the protein of a  
20 Prevagen 10mg dose – even a piece of white bread contains over 200 times  
21 the amount of protein than a 10mg dose of Prevagen.

22           80. At \$.50 per hot dog, 10 mg of hot dog would cost  
23 approximately \$0.001 per mg or \$0.01 per 10mg, whereas 10mg of  
24 Prevagen costs approximately \$1.33.

25           81. In addition, if apoaeguorin supposedly has the ability to supply  
26 calcium-binding proteins to the brain, Defendant's 2016 GRAS letter to the  
27 FDA put that lie to rest as they admitted that (1) the amount of calcium  
28 bound by Prevagen at either 10mg or 20mg doses "will be very small

1 (negligible)” and (2) after calculating the amounts of calcium bound by  
2 Prevagen the letter states, “the daily recommended allowance of calcium is  
3 1200mg and is over 10,000 fold higher” (*Id.*) which means that the calcium-  
4 binding potential of a dose of Prevagen does not even qualify to be  
5 designated “trivial.”

6 82. But, if one is to believe Defendants and as Mr. Underwood as  
7 set forth in his book discussed above, the whole reason for the “invention”  
8 of Prevagen was that apoeaquorin is a calcium-binding protein and that our  
9 brains could use more calcium-binding proteins as we age.

10 **The Blood-Brain Barrier Would Block Any Intact Apoeaquorin**  
11 **That Reaches the Brain**

12 83. Moreover, even if somehow some intact apoeaquorin  
13 molecules did survive digestion, if they did not cause anaphylactic shock  
14 like undigested peanut molecules, those molecules would more than likely  
15 be snatched up by any of the approximate 1 trillion cells in our bodies  
16 before they reached the brain.

17 84. And as noted above – the BBB blocks molecules like  
18 apoeaquorin.

19 85. Plaintiff and his counsel have retained one of the world’s  
20 foremost experts in brain chemistry and an expert in the field regarding  
21 whether and how substances may or may not affect brain function and  
22 memory.

23 86. He has evaluated the ingredients in Prevagen, along with  
24 reviewing the various iterations of the MMS study.

25 87. Plaintiff’s expert has concluded that (1) Prevagen cannot work  
26 as represented because the apoeaquorin, the only purported active  
27 ingredient in Prevagen, once ingested, is completely destroyed by the  
28 digestive system, transforming it into common amino acids (and maybe a

1 few small peptides – combinations of two amino acids) no different than  
 2 those derived from other common food products such as chicken, cold cuts,  
 3 hamburgers etc.; (2) the average diet contains 50-100 grams of protein per  
 4 day, contains all the required amino acids, and provides about 50,000-  
 5 100,000 times more amino acids than Prevagen and, as a result, any amino  
 6 acids derived from the digestion of Prevagen would be massively diluted  
 7 and could have no measurable effect on the brain; (3) ingestion of Prevagen  
 8 cannot and does not have any effect on brain function or memory; (4) the  
 9 Madison Memory Study is deeply flawed because, among other things, the  
 10 post-hoc subgroup conclusions relied upon by Defendants violated  
 11 established clinical trial principles as well as not being supported by the  
 12 study and (5) if it is to be relied upon for anything it proves that Prevagen  
 13 does not work as represented because the original endpoint – whether  
 14 Prevagen provided any brain health benefits – was shown to be negative.

15 88. As a result, Defendant’s citation to this subgroup analysis in its  
 16 marketing as described herein, leading consumers to believe that Prevagen  
 17 has been proven to work as represented, its a separate false, misleading and  
 18 deceptive statement that is in addition to the false claims made by  
 19 Defendants that Prevagen provides any sort of brain health benefits.

20 **“Clinically Tested” Coveys the Message that Prevagen is Clinically**  
 21 **Shown/Proven To Provide the Represented Brain Health Benefits**

22 89. Throughout the Prevagen packaging and other marketing  
 23 Defendants make numerous references to the MMS and the fact that  
 24 Prevagen has been proven effective for slowing down mild cognitive decline  
 25 or even improving cognitive performance in those with mild cognitive  
 26 decline.

27 90. Though not disclosed to consumers, this claim, in turn, was  
 28 based on an unplanned post-hoc subgroup analysis of the MMS. This, of

1 course, is a convenient subgroup finding for Defendants to use to promote  
2 Prevagen, as their customers are comprised mostly of people who are  
3 concerned with memory issues.

4 91. The Prevagen front label packaging states that the Product is  
5 “clinically tested” to provide brain function and memory benefits. By  
6 stating that the product is clinically tested, Defendants are representing to  
7 consumers that credible scientific evidence exists which supports  
8 Defendant’s claim that the product provides brain function and memory  
9 benefits. Otherwise, why make a “clinically tested” claim in the first  
10 instance?

11 92. Reasonable consumers understand “clinically tested” to mean  
12 that there is competent and reliable scientific support for the brain function  
13 and memory benefit representations as there could be only two relevant  
14 outcomes of clinical testing – either Prevagen was shown to work as  
15 represented or not, and reasonable consumers would not conclude that  
16 Defendants intended to inform them that the clinical testing proved that  
17 Prevagen did not work.

18 93. Thus, reasonable consumers would conclude that the fact that  
19 Defendants represent that Prevagen was clinically tested means that the  
20 testing showed positive results and that Prevagen will provide the  
21 represented brain health benefits.

22 **The MMS Is A Deeply Flawed Study as is the Subgroup Analysis Cited**  
23 **By Defendants In their Market Materials**

24 94. The Madison Memory Study (“MMS”) and the various  
25 differing written reports issued by Defendants over the years about it, are  
26 not the by-product of a legitimate clinical study or accepted scientific  
27 analysis.

1           95. Its results are so flawed as to be wholly unreliable to reach any  
2 conclusions about the efficacy of apoeaquorin. In fact, if the study is to be  
3 relied upon at all, its results show that apoeaquorin does not work as  
4 represented.

5           96. For at least the last 70 years, the universally accepted form of  
6 scientific evidence recognized by experts in the field for determining  
7 whether a substance provides any human health benefits is through  
8 demonstrating that it has a statistically significant value over placebo based  
9 high quality and well-conducted randomized controlled clinical trials  
10 (“RCTs”).

11           97. The MMS is none of the above.

12           98. Experts in the field of brain health research would require that  
13 any brain health benefits claimed for substances like Prevagen be proven by  
14 at least one and, under the well-accepted scientific “principle of  
15 replication”,<sup>15</sup> most often, two well-conducted randomized controlled  
16 clinical trials.

17           99. This well-settled science, in turn, requires that any conclusions  
18 derived from an RCT must be ones based upon the testing of pre-planned  
19 hypotheses set forth in a protocol prepared before the study.

20           100. For example, the protocol of the 2016 version of the MMS  
21 report appears to set forth the hypothesis it was testing whether, when the  
22 results from the whole group of 218 study subjects were analyzed as a  
23 group, there was a statistically significant difference between the Prevagen  
24 group and the placebo control group over a variety of endpoints.

---

25  
26  
27 <sup>15</sup> The scientific principal that many are taught in high school biology, that  
28 before reaching conclusions, an experiment’s results should be replicated.

1           101. What is also clear is that the protocol did not specify – on an a  
2 priori basis – that any subgroup analyses would be performed on those with  
3 no or mild cognitive decline. Instead, as will be discussed below, the  
4 subgroup analysis cited by Defendants was an improper post-hoc analysis  
5 of the data that has the common name “data-mining” – looking for a  
6 positive result when none were found per the protocol.

7           102. While such post-hoc analyses are routinely performed,  
8 particularly when a study is negative, they are not to be relied upon for any  
9 conclusions to be derived from the study itself but, instead, at most provide  
10 new hypotheses to be subsequently tested in later RCTs.

11           103. In particular, any efficacy analyses of sub-groups must have  
12 been pre-planned in the original protocol of the study and adequately  
13 powered to avoid false positive results.

14           104. The sub-group analysis cited by Defendants was not pre-  
15 planned but instead was part of numerous post hoc analyses of various small  
16 subsets of study participants which Defendants performed until they found a  
17 subset they liked.

18           105. And finally, just as important, post-hoc analyses are deemed  
19 unreliable for reaching efficacy conclusions because of the risk of data  
20 mining – which is what happened here.

21           106. So, for example, if Defendants really believed that their post  
22 hoc analysis on this subgroup might have merit, it was incumbent upon  
23 them to conduct a high-quality RCT studying whether Prevagen provided  
24 brain health benefits to those with no or mild cognitive declines. That they  
25 did not do so, says much about the confidence they have in such a subgroup  
26 RCT producing any positive results.

27           107. But the improper citation and reliance on the subgroup analysis  
28 by Defendants should not obscure that the results for the one hypothesis the

1 study did test – how did Prevagen perform when the entire study group is  
 2 analyzed, resulted in Defendants writing this in their 2016 published version  
 3 of the MMS – “no statistically significant results were observed over the  
 4 entire study population.” And in the results section, they acknowledged that  
 5 this was true for every endpoint that they studied – no statistical differences  
 6 at all.<sup>16</sup>

7 108. In fact, it was only after the study results showed no efficacy  
 8 for the original hypothesis that Defendants went on a data-mining excursion  
 9 and found that there were purported statistically significant results in one  
 10 subgroup when their results were combined, and which subgroup Defendant  
 11 contends comprise individuals “with either minimal or no cognitive  
 12 impairment.”

13 109. And apart from being the by-product of improper data-mining  
 14 there is another reason why trying to differentiate between different  
 15 subgroups that are grouped by AD8 status is improper as well.

16 110. Because, as discussed here, the persons tasked with conducting  
 17 the MMS were not qualified to conduct clinical trials, they chose a device to  
 18 categorize individual study subjects’ cognitive status at baseline (the  
 19 beginning of the study) and at several points during the study (midpoints  
 20 and the end) called the AD8.

---

23 <sup>16</sup> Quincy paid for the publication of this 2016 version of the MMS in  
 24 Advances in Mind-Body Medicine, at best, a fringe journal that appears to  
 25 make money only by authors paying them to publish. Peer-reviewed  
 26 journals are ranked on their impact (measured by the times that articles  
 27 published in their journals are cited). The New England Journal of  
 28 Medicine has a 176.08 impact factor, the JAMA has a 157.3 impact factor,  
 and the British Journal of Medicine is 96.2. The Advances journal has an  
 impact rating of 0.132.



**The AD8 is a Preliminary Screening Device That Is to be Used to Determine Whether Further, More Definitive Testing is Required and is Not To Be Used As it Was in the MMS**

111. Defendants used the AD8 to categorize the study subject from no cognitive impairment to severe cognitive impairment.

112. But the AD8 is not to be used for the purposes it was employed by the Defendants in the MMS.

113. The AD8 is a basic screening tool that was originally designed to be administered by persons such as family members to assess whether they should seek further, more accurate, testing by medical professionals.

114. So, but for a few exceptions not applicable to the MMS, all the AD8 is to be used for is to determine whether or not more precise diagnostic testing should be conducted on an individual to evaluate their cognitive status.

115. Thus, the AD8 sets forth 8 levels of cognitive status – with 1 being the healthiest and 8 being the least healthy.

116. But it is not a diagnostic tool, as it has been found to be wrong as much as 50% of the time in terms of where a patient is situated on the cognitive status spectrum.

117. This means that, as a threshold matter, there is a chance that 50% of the MMS study subjects were placed in the wrong AD8 category, which in turn means that any analysis of the effects of Prevagen on any subgroups are automatically unreliable to arrive at any conclusions regarding Prevagen's efficacy within such subgroups.

118. Moreover, a recent meta-analysis of the AD8 found that it has "small informational value in confirming MCI (mild cognitive impairment) and dementia but moderate informational value in excluding it." See "The Diagnostic Accuracy of the Ascertain Dementia 8 Questionnaire for

1 Detecting Cognitive Impairment,” attached as **Exhibit 6**. Yet, it was used in  
 2 the MMS to recruit subjects with MCI and the subgroup analysis (the  
 3 persons categorized by Defendants as AD02 patients) claimed to include  
 4 persons with MCI.

5 119. This meta-analysis also found that, “The AD8 had greater  
 6 sensitivity in differentiating normal cognition from MCI or dementia when  
 7 used in clinics or hospitals than when used in the community.” The MMS  
 8 was conducted on community dwelling older adults.

9 **The People Who Designed, Conducted and Analyzed the MMS**  
 10 **Were Not Qualified to Conduct an RCT**

11 120. The MMS study’s problems also include the fact that it was  
 12 designed, conducted, analyzed and written up by persons with no training,  
 13 expertise or experience in clinical trials. This in turn likely describes why it  
 14 was so unscientific and deeply flawed.

15 121. The person who seems to have been primarily responsible for  
 16 designing and conducting the various clinical trials on Prevagen<sup>17</sup> including  
 17 the MMS, was Taylor Gabourie – who had a bachelors degree in  
 18 psychology while she was with Quincy and conducting this study.

19 122. According to her LinkedIn page, she is currently the AMR  
 20 Communications Officer at the World Organization for Animal Health and  
 21 lists her title at Quincy as “Statistical Research Coordinator” who according  
 22 to her was “the *main* resource at any stage of the research process including:  
 23 being knowledgeable of all protocols, regulations, ethical standards,  
 24 processes/procedures and individual colleagues [sic] responsibilities.” See  
 25 **Exhibit 7**, attached hereto.

---

26  
 27 <sup>17</sup> There appear to have been numerous others, other than the cognitive study,  
 28 including ones for the treatment of diseases such as MS.

123. And the person who purportedly supervised her on the MMS study, Kenneth Lerner, was no better. Mr. Lerner states on LinkedIn that his latest degree is an MBA in marketing and who identifies himself on LinkedIn as being the head of “Business development and Intellectual Property Manager” for Quincy Bioscience since 2006 with his prior positions being “Intellectual Property and Technology Transfer Manager” at the University of Wisconsin Milwaukee (1999-2006) and Business and Corporate Development Manager at Ophidian (a pharmaceutical company) (1993-1999). He lists no experience with clinical trials and, in fact, lists his responsibilities at Quincy as “Diplomacy – drug development<sup>18</sup> budget preparation, legal protection, patent applications, trademark law, trademark infringement, international intellectual property, intellectual property law, patent portfolio management and trademarks.’ See **Exhibit 8**, attached hereto.

124. In short, neither of the two persons listed as the chief “investigators” for the MMS had any experience designing, conducting or evaluating the results of a clinical trial. Two other authors of the 2016 report of MMS are a person who was in charge of the manufacturing of Prevagen and Defendant Mark Underwood who has a B.A. and whose prior work experience before Quincy was working as a “Director of Business Development” at a packaging company.

125. As a result, the MMS is riddled with critical and fatal flaws as described herein, and should not and cannot have been relied upon by the Defendants for the marketing purposes for which it was used by the Defendants.

---

<sup>18</sup> Drug development being an interesting term as Quincy sells only one thing – a dietary supplement – Prevagen.

**Per Its Protocol, the MMS was a Negative Study**

126. What should not be missed is that the MMS study was a negative study as far as Prevagen working as Defendants represent.

127. The clinical trial has a pre-stated protocol that sets forth what hypothesis is being studied and then governs how that it is to be studied and what conclusions can be drawn from the results. MMS stated that its purpose was to test the effect of Prevagen on the entire 218-person study group, without regard for their purported cognitive status based on the AD8.

128. And, when looking at the results of the entire study group as was originally planned in the protocol, Quincy admitted in a published 2016 version of the study that “no statistically significant results were observed over the entire study populations.” In short, no statistically significant results were observed in the treatment group over the entire study population on any of nine cognitive tasks.

129. That should have been the end of the inquiry and the analysis of the data from the MMS – Prevagen did not work for the study group as set forth in the protocol.

130. Or to put it simply – the MMS study was a negative study that showed that Prevagen does not work as represented.

**Defendants Engaged In and Then Relied On Improper Post-hoc Data Mining to Arrive At Their AD8 01-02 Subgroup Analyses As Well as Using An Improper Statistical Significance Standard**

131. But more important, this sort of data mining and post-hoc analyses are considered by experts in the field to be wholly improper for purposes of reaching any efficacy conclusions.

132. Some of the reasons for this are that only at the planning state can it be determined – using well-accepted biostatistical analyses – whether a

1 study group is large enough or a subgroup is adequately “powered” such  
 2 that conclusions about efficacy can be made. As without adequate pre-  
 3 planned powering, a post-hoc analysis of a subgroup risks false positives.

4 133. If subgroups are also to be studied, different biostatistical  
 5 analyses must be pre-planned and employed for each subgroup.

6 134. The same is true when a study attempts to analyze multiple  
 7 endpoints. Thus, if a study investigates multiple endpoints – say two – to  
 8 reach statistical significance the results must be 0.025 – twice as stringent  
 9 than the usual 0.05. Or in other words, the analysis must find that its  
 10 conclusions are correct 97.75 of the time as opposed to being correct 95%.  
 11 The above corrections are called “Bonferroni corrections” and are employed  
 12 when more than one endpoint is being studied in a single RCT.<sup>19</sup>

13 135. There were so many endpoints studied in the MMS – over 30 in  
 14 some versions and at least 4 in the 2016 study published in Advances – that  
 15 the statistical significance that would be required to be met to make any  
 16 conclusions about the efficacy of Prevagen for any subgroups would have to  
 17 be close to 0.00 or to put it in lay persons’ terms – it would have to be  
 18 correct 100% of the time. Just four endpoints would require a statistical  
 19 significance level of 0.0125 – a statistical level that was not used in the  
 20

---

21 <sup>19</sup> The Bonferroni test, also known as “Bonferroni correction” or  
 22 “Bonferroni adjustment” “suggests that the p- value for each test must be  
 23 equal to its alpha divided by the number of tests performed. The  
 24 Bonferroni test is a multiple-comparison correction used when several  
 25 dependent or independent statistical tests are being performed  
 26 simultaneously. The reason is that while a given alpha value may be  
 27 appropriate for each individual comparison, it is not appropriate for the set  
 28 of all comparisons. In order to eliminate multiple spurious positives, the  
 alpha value needs to be lowered to account for the number of comparisons  
 being performed.” [https://www.investopedia.com/terms/b/bonferroni-  
 test.asp](https://www.investopedia.com/terms/b/bonferroni-test.asp).

1 subgroup analysis.

2 136. As an article in the Food and Drug Law Institute – “After  
3 Quincy failed to find a treatment effect for the study population as a whole,  
4 its researchers conducted more than 30 unplanned *post hoc*  
5 subgroupanalyses of the results,[21] looking at data broken down by  
6 several variations of small subgroups for each of the nine cognitive tasks.  
7 This is a classic example of data dredging or “p-hacking,” where  
8 researchers perform unplanned analysis following the rejection of an overall  
9 null hypothesis with the goal of finding significant effects wherever and  
10 however they can be found. [22] If one conservatively assumes 31  
11 subgroups from the “more than 30” subgroup range, the probability of  
12 finding at lease one false positive at the 0.05 level of statistical significance  
13 (“alfa”) is the family-wise error rate (FWER) =  $p = 1 - (1 - 0.05)^{31} = .796 =$   
14 80%. An 80% probability of finding at lease one false positive in an  
15 unlaced post hoc subgroup analysis provides compelling evidence of a  
16 deficiency in the study’s methodology. As such, *post hoc* subgroup analysis  
17 is suitable only for generating new hypotheses for future studies; thus, it is  
18 inappropriate for generating definitive results and establishing Prevagen’s  
19 efficacy in the Madison Memory Study.[23]” Degnan *et al.*, “Strengthening  
20 the Regulations of Dietary Supplements – Lessons from Prevagen,” Food  
21 and Drug Law Institute, Winter 2021, attached hereto as **Exhibit 9**.

22 137. And as for the subgroup analysis cited by Defendants in their  
23 marketing of Prevagen, the authors of this article note that, “Given the 80%  
24 minimum Type 1 error rate previously calculated for 30-plus comparisons,  
25 these statistically significant findings are very likely false positive and not  
26 reliable evidence of a treatment effect. (¶) The final and decisive  
27 shortcoming of Quincy’s subgroup analysis was its failure to use multiple  
28 testing procedures to control for family-wise error rate (FWER). [fn] These

1 procedures include the Bonferroni correction and the Benjamin-Hochberg  
2 (B-H) methods and are well-known in statistical practice...Compared to the  
3 Bonferroni and B-H criteria, the results for subgroups AD8 0-1 and 0-2 are  
4 in fact not statistically significant; therefore, Prevagen's efficacy cannot be  
5 proved both in the study subgroups and in the entire study population." See  
6 **Exhibit 9**, Degnan *et al.*, at p. 4 of the exhibit, (emphasis in original).

7 138. And while clinical trials are routinely conducted – testing  
8 multiple endpoints – when they get to be as large as the number tested in  
9 the MMS, such a study can only be used for exploratory purposes to find a  
10 hypothesis that might later be tested in an RCT – like that Prevagen is  
11 effective for those with MCI. But for any number of reasons, the subgroup  
12 analysis relied upon by Defendants to make the representations they do  
13 about Prevagen are wholly improper.

14 139. Moreover, although any properly conducted clinical trial uses  
15 biostatistics and persons with expertise in biostatistics to determine whether  
16 there are sufficient numbers of study subjects such that the study is  
17 sufficiently powered to be relied upon, there is no discussion of any such  
18 powering calculations for the MMS as a whole and by definition, given that  
19 the subgroup analyses were not pre-planned and were post-hoc, they could  
20 not and did not have any of the required per protocol pre-planned powering  
21 calculations.

22 140. Powering calculations are routinely discussed in reliable RCTs,  
23 so that other scientists and biostatisticians who might read the study report  
24 can determine whether the statistical analyses employed were proper. In  
25 fact, this is the process of science – articles are published so that the world  
26 of scientists can review or even replicate the experiments reported in a study  
27 report.

28 141. Thus, it must also be assumed that in the absence of any



1 powering discussions in the published version of the MMS that no  
 2 powering was performed at all – yet another fatal flaw in the MMS as a  
 3 whole and the subgroup analysis cited by Defendants in their marketing of  
 4 Prevagen.

5 142. As a result, the subgroup analyses relied upon by Defendants  
 6 to claim efficacy for those with mild cognitive problems cannot and should  
 7 not be relied upon for such conclusions.

8 143. Thus, Defendants’ claims about Prevagen being clinically  
 9 tested, which in turn means to the reasonable consumer that Prevagen is  
 10 clinically shown to provide the represented brain health claims are  
 11 themselves false, misleading, and deceptive statements independent of the  
 12 brain health falsehoods/representations.

### 13 **Summary of Key Points**

14 144. The only reason a consumer would purchase Prevagen is to  
 15 obtain the advertised brain health benefits, which it does not provide.

16 145. Defendants advertise and promote Prevagen with the brain  
 17 health claims – “improves memory” and “supports healthy brain function,  
 18 sharper mind and clearer think” – prominently displayed on the front of the  
 19 package.<sup>20</sup>

20 146. The fact that Defendants prominently advertises Prevagen’s  
 21 purported brain health benefits on the front label (as opposed to only on the  
 22 back label), in bold text, demonstrates that Defendants are aware that its  
 23 consumers specifically seek out supplements to improve their brain health,  
 24 cognitive functions, and memory and they are actively promoting their brain  
 25 health claims to consumers.

---

26  
 27 <sup>20</sup> [https://prevagen.com/collections/brain-health-memory-improvement-](https://prevagen.com/collections/brain-health-memory-improvement-supplements)  
 28 [supplements](https://prevagen.com/collections/brain-health-memory-improvement-supplements) (last visited February 26, 2024).

1           147. Otherwise, Defendants would not devote limited and valuable  
2 labeling real estate to such claims. Indeed, the brain health claims are the  
3 only marketing claims made on the products' front labels.

4           148. Defendants intended for Plaintiff and the Class members to be  
5 deceived or misled by the brain health, brain function, and memory  
6 representations. Defendants' deceptive and misleading practices  
7 proximately caused harm to the Plaintiff and the Class.

8           149. As a result of Defendants' false, misleading, and deceptive  
9 brain health, brain function, and memory representations, consumers –  
10 including Plaintiff and members of the proposed Class – have purchased  
11 Products that do not perform as advertised and are worthless for purposes of  
12 brain health, brain function, or improving/maintaining memory.

13           150. Whether a product is clinically tested or not is also important  
14 information to a reasonable consumer and they would not have purchased  
15 Prevagen if they were aware of the false, misleading, and deceptive  
16 representations and labeling of the products by Defendants.

17           151. Plaintiff bring this action on behalf of himself and other  
18 similarly situated consumers who purchased Prevagen, to obtain redress  
19 for those who have purchased Prevagen from July 22, 2020 forward.<sup>21</sup>  
20 Plaintiff and members of the Proposed Class were injured by Defendants'  
21 false, fraudulent, unfair, deceptive, and misleading practices and conduct.  
22 Accordingly, Plaintiff seeks compensatory damages and equitable remedies

---

23           <sup>21</sup> July 22, 2020 is the end date of a claims made class action settlement that could  
24 not have achieved approval in any circuit but for the Eleventh Circuit which at the  
25 time permitted a settlement that paid the class under \$1 million but the attorneys  
26 close to \$2.6 million. While the Prevagen settlement was not objected to, since then  
27 the Eleventh Circuit rejected a similar settlement entered into by the same plaintiffs'  
28 attorneys for another brain health supplement with similar dismal results for the  
class. *See Williams et al. v. Reckitt Bensciser LLC et al.*, No. 22-11232 (11th Cir.  
Apr. 12, 2023).

1 for themselves(s) and members of the Proposed Class.

## 2 JURISDICTION AND VENUE

3 152. This Court has original jurisdiction pursuant to 28 U.S.C.  
4 §1332(d)(2). The matter in controversy, exclusive of interest and costs,  
5 exceeds the sum or value of \$5,000,000 and is a class action in which there  
6 are in excess of 100 class members and some members of the Class are  
7 citizens of a state different from Defendants.

8 153. This Court has personal jurisdiction over Defendants because  
9 the corporate Defendants are authorized to conduct and do business in  
10 California, including this District. And it was the individual Defendants  
11 who caused Prevagen to be marketed, promoted, distributed, and sold in  
12 California. As a result, Defendants have sufficient minimum contacts with  
13 this State and/or sufficiently availed themselves of the markets in this State  
14 through their promotion, sales, distribution and marketing within this State,  
15 including this District, to render the exercise of jurisdiction by this Court  
16 permissible.

17 154. Venue is proper in this Court pursuant to 28 U.S.C. §§1391(a)  
18 and (b) because a substantial part of the events giving rise to Plaintiff's  
19 claims occurred while he resided in this judicial district. Venue is also  
20 proper under 18 U.S.C. §1965(a) because Defendants transacts substantial  
21 business in this District.

## 22 PARTIES

23 155. During the relevant time period, Plaintiff Richard Poole was  
24 exposed to and saw Defendant's brain function and memory representations  
25 by first hearing about them on television advertisements which led him to  
26 believe that the Prevagen products would provide him the represented brain  
27 health benefits. These brain health representations were reconfirmed when  
28 he went to a CVS store near his home, saw the front of the package labeling

1 which contained the same brain health representations and made his  
2 purchases of Prevagen. Within the last 3 years, Plaintiff Poole has made  
3 multiple purchases of Prevagen; Plaintiff Poole first purchased regular-  
4 strength Prevagen but then switched to extra strength after a few purchases.  
5 In all, Plaintiff purchased approximately 8 bottles of Prevagen products in  
6 the hopes that, over an extended period of time, they would provide the  
7 represented brain health benefits. After his last purchase he determined that,  
8 in fact, the Prevagen products had not and did not provide him with any  
9 brain health benefits. Plaintiff paid approximately \$35 for regular strength  
10 and \$45 for extra strength Prevagen. The Prevagen products Plaintiff Poole  
11 purchased did not and could not improve memory or support healthy brain  
12 function as represented. As a result, Plaintiff Poole suffered injury in fact  
13 and lost money. Had Plaintiff known the truth about Defendants'  
14 misrepresentations, he would not have purchased Prevagen.

15 156. Defendant Quincy Bioscience Holding Company, Inc. is a  
16 Wisconsin corporation with its principal place of business at 726 Heartland  
17 Trail, Suite 300, Madison, Wisconsin. Quincy Bioscience Holding  
18 Company, Inc. transacts or has transacted business in this district and  
19 throughout the United States. At all times material to this Complaint, acting  
20 alone or in concert with others, Quincy Bioscience Holding Company, Inc.,  
21 through its wholly-owned subsidiaries, has advertised, marketed, promoted,  
22 distributed, or sold Prevagen to consumers throughout the United States,  
23 including California.

24 157. Defendant Quincy Bioscience, LLC is a wholly-owned  
25 subsidiary of Quincy Bioscience Holding Company, Inc. It is a Wisconsin  
26 limited liability company with its principal place of business at 726  
27 Heartland Trail, Suite 300, Madison, Wisconsin. Quincy Bioscience, LLC  
28 transacts or has transacted business in this district and throughout the

1 United States. At all times material to this Complaint, acting alone or in  
2 concert with others, Quincy Bioscience, LLC has advertised, marketed,  
3 promoted, distributed, or sold Prevagen to consumers throughout the United  
4 States, including California.

5 158. Defendant Prevagen, Inc., also doing business as Sugar River  
6 Supplements, is a wholly-owned subsidiary of Quincy Bioscience Holding  
7 Company, Inc. It is a Wisconsin corporation with its principal place of  
8 business at 726 Heartland Trail, Suite 300, Madison, Wisconsin. Prevagen,  
9 Inc. transacts or has transacted business in this district and throughout the  
10 United States. At all times material to this Complaint, acting alone or in  
11 concert with others, Prevagen, Inc. has advertised, marketed, promoted,  
12 distributed, or sold Prevagen to consumers throughout the United States,  
13 including California.

14 159. Defendant Quincy Bioscience Manufacturing, LLC is a  
15 wholly-owned subsidiary of Quincy Bioscience Holding Company, Inc. It is  
16 a Wisconsin corporation with its principal place of business at 726 Heartland  
17 Trail, Suite 300, Madison, Wisconsin. Quincy Bioscience Manufacturing,  
18 LLC transacts or has transacted business in this district and throughout the  
19 United States. At all times material to this Complaint, acting alone or in  
20 concert with others, Quincy Bioscience Manufacturing, LLC has advertised,  
21 marketed, promoted, distributed, or sold Prevagen to consumers throughout  
22 the United States, including California.

23 160. Defendant Mark Underwood (“Underwood”) is the co-founder  
24 and President of Quincy Bioscience Holding Company, Inc., Quincy  
25 Bioscience, LLC, and Prevagen, Inc. Underwood is a member of the Board  
26 of Directors of Quincy Bioscience, LLC, Prevagen, Inc., and Quincy  
27 Bioscience Manufacturing, LLC and a shareholder of Quincy Bioscience  
28 Holding Company, Inc., owning 33 percent of shares, the largest individual

1 ownership interest. Underwood, in connection with the matters alleged  
2 herein, transacts or has transacted business in this district and throughout  
3 the United States, including California.

4 161. At all times material to this Complaint, acting alone or in  
5 concert with others, Underwood has formulated, directed, controlled, had  
6 the authority to control, or participated in the acts and practices of Quincy  
7 Bioscience Holding Company, Inc., Quincy Bioscience, LLC, and  
8 Prevagen, Inc., including the acts and practices set forth in this Complaint.  
9 Underwood is a member of the marketing creative team, serving as the final  
10 decision maker on advertising claims across all channels of distribution and  
11 media platforms.

12 162. Defendant Michael Beaman (“Beaman”) is the co-founder,  
13 former President, and current Chief Executive Officer of Quincy Bioscience  
14 Holding Company, Inc., Quincy Bioscience, LLC, and Prevagen, Inc.  
15 Beaman is the Chair of the Board of Directors for Quincy Bioscience, LLC,  
16 Prevagen, Inc., and Quincy Bioscience Manufacturing, LLC and a  
17 shareholder of Quincy Bioscience Holding Company, Inc., owning 22  
18 percent of shares, the second largest individual ownership interest. Beaman,  
19 in connection with the matters alleged herein, transacts or has transacted  
20 business in this district and throughout the United States, including  
21 California.

22 163. Defendants Quincy Bioscience Holding Company, Inc.,  
23 Quincy Bioscience, LLC, Prevagen, Inc., and Quincy Bioscience  
24 Manufacturing, LLC (collectively, “Corporate Defendants”) have operated  
25 as a common enterprise while engaging in the deceptive acts described  
26 herein.

27 164. Because these Corporate Defendants have operated as a  
28 common enterprise, each of them is jointly and severally liable for the acts



1 and practices alleged below. Defendants Beaman and Underwood have  
 2 formulated, directed, controlled, had the authority to control, or participated  
 3 in the acts and practices of the Corporate Defendants that constitute the  
 4 common enterprise.

### 5 **CLASS DEFINITIONS AND ALLEGATIONS**

6 165. Plaintiff brings this action on behalf of himself and all other  
 7 similarly situated Class members pursuant to Rule 23(a), (b)(2) and (b)(3)  
 8 of the Federal Rules of Civil Procedure and seeks certification of the  
 9 following Class against Defendants for violations of California state law  
 10 and/or similar laws in other states:

#### 11 **Nationwide Class Action**

12 All consumers in the United States of America who  
 13 since July 22, 2020 and until the date notice is  
 14 disseminated, purchased Prevagen.

15 Excluded from this Class are Defendants and the  
 16 officers, directors and employees of any Quincy  
 17 related entity and those who purchased Prevagen for  
 18 the purpose of resale.

#### 19 **Multi-State Class Action**

20 All consumers who since July 22, 2020 and until the  
 21 date notice is disseminated, purchased Prevagen in  
 22 California and states with similar laws.<sup>22</sup>

---

23  
 24 <sup>22</sup> While discovery may alter the following, Plaintiff preliminarily alleges  
 25 that Defendant violated the laws prohibiting unfair and deceptive trade  
 26 practices of the states and territories wherein Class members reside,  
 27 including: Cal. Bus. & Prof. Code §17200 *et seq.*; Fla. Stat. §501.201 *et*  
 28 *seq.*; 815 Ill. Comp. Stat. 502/1, *et seq.*; Mass. Gen. Laws ch. 93A; Mich.  
 Stat. §445.901 *et seq.*; Minn. Stat. §8.31 *et seq.*; Missouri Stat. §407.010 *et*  
*seq.*; N.J. Stat. §56:8-1 *et seq.*; N.Y. Gen. Bus. Law § 349; and Wash. Rev.  
 Code. §19.86.010 *et seq.*

1  
2 Excluded from this Class are Defendants and the  
3 officers, directors and employees of any Quincy  
4 related entity and those who purchased Prevagen for  
5 the purpose of resale.

6 166. Alternatively, Plaintiff brings this action on behalf of himself  
7 and all other similarly situated California consumers pursuant to Rule 23(a),  
8 (b)(2) and (b)(3) of the Federal Rules of Civil Procedure and seeks  
9 certification of the following Class:

10 **California-Only Class Action**

11 All consumers in California who since July 22, 2020  
12 and until the date notice is disseminated,  
13 purchased Prevagen.

14 Excluded from this Class are Defendants and the  
15 officers, directors and employees of any Quincy  
16 related entity and those who purchased Prevagen for  
17 the purpose of resale.

18 167. *Numerosity.* The members of the Class are so numerous that  
19 joinder of all members of the Class is impracticable. Plaintiff is informed  
20 and believes that the proposed Class contains thousands of purchasers of  
21 Prevagen who have been damaged by Defendant's conduct as alleged  
22 herein. The precise number of Class members is unknown to Plaintiff.

23 168. *Existence and Predominance of Common Questions of Law*  
24 *and Fact.* This action involves common questions of law and fact, which  
25 predominate over any questions affecting individual Class members. These  
26 common legal and factual questions include, but are not limited to, the  
27 following:  
28

- 1 (a) whether Defendants' representations discussed above are
- 2 misleading, or objectively reasonably likely to deceive;
- 3 (b) whether the alleged conduct constitutes violations of the laws asserted;
- 4 (c) whether Defendants engaged in false or misleading advertising;
- 5 (d) whether Plaintiff and Class members have sustained monetary
- 6 loss and the proper measure of that loss; and
- 7 (e) whether Plaintiff and Class members are entitled to other
- 8 appropriate remedies, including corrective advertising and
- 9 injunctive relief.

10 169. **Typicality.** Plaintiff's claims are typical of the claims of the  
11 members of the Class because, *inter alia*, all Class members were injured  
12 through the uniform misconduct described above and were subject to  
13 Defendants' deceptive brain function and memory representations that  
14 accompanied each and every bottle of Prevagen as well as Defendants'  
15 other marketing efforts such as TV commercials. Plaintiff is also advancing  
16 the same claims and legal theories on behalf of himself and all members of  
17 the Class.

18 170. **Adequacy of Representation.** Plaintiff will fairly and  
19 adequately protect the interests of the members of the Class. Plaintiff has  
20 retained counsel experienced in complex consumer class action litigation,  
21 and Plaintiff intends to prosecute this action vigorously. Plaintiff has no  
22 adverse or antagonistic interests to those of the Class.

23 171. **Superiority.** A class action is superior to all other available  
24 means for the fair and efficient adjudication of this controversy. The  
25 damages or other financial detriment suffered by individual Class members  
26 is relatively small compared to the burden and expense that would be  
27 entailed by individual litigation of their claims against Defendant. It would  
28 thus be virtually impossible for members of the Class, on an individual

1 basis, to obtain effective redress for the wrongs done to them. Furthermore,  
 2 even if Class members could afford such individualized litigation, the court  
 3 system could not. Individualized litigation would create the danger of  
 4 inconsistent or contradictory judgments arising from the same set of facts.  
 5 Individualized litigation would also increase the delay and expense to all  
 6 parties and the court system from the issues raised by this action. By  
 7 contrast, the class action device provides the benefits of adjudication of  
 8 these issues in a single proceeding, economies of scale, and comprehensive  
 9 supervision by a single court, and presents no unusual management  
 10 difficulties under the circumstances here.

11 172. Unless a Class is certified, Defendants will retain monies  
 12 received as a result of their conduct that was taken from Plaintiff and Class  
 13 members.

#### 14 **FIRST CAUSE OF ACTION**

#### 15 **Violation of Business & Professions Code §17200, *et seq.***

#### 16 **(By Plaintiff Against Defendants)**

17 173. Plaintiff and Class members reallege and incorporate by reference each  
 18 allegation set forth above and further allege as follows.

19 174. Plaintiff brings this claim individually and on behalf of the Class.

20 175. As alleged herein, Plaintiff has suffered injury in fact and lost money or  
 21 property as a result of Defendants' conduct because he purchased Prevagen in  
 22 reliance on Defendants' claim that Prevagen is "clinically tested" to "improve[]  
 23 memory" and "support[]: healthy brain function, shaper mind, and clearer thinking"  
 24 but did not receive a product that improved memory and supported brain function,  
 25 sharper mind and clearer thinking.

26 176. The Unfair Competition Law, Business & Professions Code §17200, *et*  
 27 *seq.* ("UCL"), and similar laws in other states, prohibits any "unlawful,"  
 28 "fraudulent" or "unfair" business act or practice and any false or misleading

1 advertising.

2 177. In the course of conducting business, Defendants committed unlawful  
3 business practices by, *inter alia*, making the brain function and memory  
4 representations (which also constitutes advertising within the meaning of §17200),  
5 as set forth more fully herein, and violating Civil Code §§1572, 1573, 1709, 1711,  
6 1770(a)(5), (7), (9) and (16) and Business & Professions Code §§17200, et seq.,  
7 17500, et seq., and the common law. Plaintiff and the Class reserve the right to  
8 allege other violations of law, which constitute other unlawful business acts or  
9 practices. Such conduct is ongoing and continues to this date.

10 178. In the course of conducting business, Defendants committed “unfair”  
11 business practices by, *inter alia*, making the brain function and memory  
12 representations (which also constitutes advertising within the meaning of §17200)  
13 regarding Prevagen in its advertising campaign, including the Products’ packaging,  
14 as set forth more fully herein. There is no societal benefit from false advertising,  
15 only harm. Plaintiff and other Class members paid for brain function and memory  
16 benefits supported by clinical testing, which they did not receive. While Plaintiff  
17 and Class members were harmed, Defendants was unjustly enriched by its false  
18 representations. Because the utility of Defendant’s conduct (zero) is outweighed by  
19 the gravity of the harm Plaintiff and Class members suffered, Defendant’s conduct  
20 is “unfair” having offended an established public policy. Further, Defendants  
21 engaged in immoral, unethical, oppressive, and unscrupulous activities that are  
22 substantially injurious to consumers.

23 179. Further, as stated in this Complaint, Plaintiff alleges violations of  
24 consumer protection, unfair competition and truth-in-advertising laws resulting in  
25 harm to consumers. Defendants’ acts also violate and offend the public policy  
26 against engaging in false and misleading advertising, unfair competition and  
27 deceptive conduct towards consumers. This conduct constitutes violations of the  
28 unfair prong of Business & Professions Code §17200, et seq.

1           180. There were reasonably available alternatives to further Defendant's'  
2 legitimate business interests, other than the conduct described herein.

3           181. Business & Professions Code §17200, et seq., also prohibits any  
4 "fraudulent business act or practice."

5           182. In the course of conducting business, Defendants committed "fraudulent  
6 business acts or practices" by, *inter alia*, making the brain function and memory  
7 representations (which also constitutes advertising within the meaning of §17200)  
8 regarding Prevagen in its advertising campaign, including the Products' packaging,  
9 as set forth more fully herein.

10           183. Defendants misrepresented on each and every Product package that the  
11 Prevagen is "clinically tested" to "improve[] memory" and "support[]: healthy  
12 brain function, shaper mind, and clearer thinking" when, in fact, oral  
13 supplementation with apoaequorin never gets past the stomach, never gets to the  
14 brain and cannot provide the brain function and memory benefits represented by  
15 Defendants.

16           184. Defendants' actions, claims and misleading statements, as more fully  
17 set forth above, were also false, misleading and/or likely to deceive the consuming  
18 public within the meaning of Business & Professions Code §17200, et seq.

19           185. Plaintiff and other members of the Class have in fact been deceived as a  
20 result of their reliance on Defendant's material representations, which are described  
21 above. This reliance has caused harm to Plaintiff and other members of the Class  
22 who each purchased Prevagen. Plaintiff and the other Class members have suffered  
23 injury in fact and lost money as a result of these unlawful, unfair, and fraudulent  
24 practices.

25           186. As a result of its deception, Defendants have been able to reap unjust  
26 revenue and profit.

27           187. Unless restrained and enjoined, Defendants will continue to engage in  
28 the above-described conduct. Accordingly, injunctive relief is appropriate.



1 188. Plaintiff, on behalf of himself, all others similarly situated, and the  
2 general public, seeks restitution of all money obtained from Plaintiff and the  
3 members of the Class collected as a result of unfair competition, an injunction  
4 prohibiting Defendants from continuing such practices, corrective advertising and  
5 all other relief this Court deems appropriate, consistent with Business &  
6 Professions Code §17203.

7 **PRAYER FOR RELIEF**

8 Wherefore, Plaintiff prays for a judgment:

- 9 1. Certifying the Class as requested herein;  
10 2. Awarding attorneys' fees and costs;  
11 3. An award of Plaintiff's and the class's damages; or  
12 4. Awarding restitution and disgorgement of Defendant's  
13 revenues to Plaintiff and the proposed Class members as  
14 unjust enrichment; and  
15 5. Providing such further relief as may be just and  
16 proper.

17 Dated: February 26, 2024

**THIGPEN LEGAL, P.C.**

19 By: /s/ Jordanna G. Thigpen  
Jordanna G. Thigpen  
20 9595 Wilshire Blvd. Suite 961  
21 Beverly Hills, CA 90212  
22 T: (310) 210-7491  
Email: jt@thigpenlegal.com

**HART MCLAUGHLIN & ELDRIDGE**

25 By: /s/ Stewart M. Weltman  
Steven A. Hart, Partner  
26 *To be admitted pro hac vice*  
27 Stewart M. Weltman, Of Counsel  
28 *To be admitted pro hac vice*

1 One South Dearborn, Suite 1400  
2 Chicago, Illinois 60603  
3 T: (312) 955-0545  
4 Email: sweltman@hmelegal.com  
5 Email: shart@hmelegal.com

6 **LEVIN SEDRAN & BERMAN LLP**

7 By: /s/ Charles E. Schaffer  
8 Charles E. Schaffer, Esq.  
9 *To be admitted pro hac vice*

10 510 Walnut St., Ste. 500  
11 Philadelphia, PA 19106  
12 T: (215) 592-1500  
13 Email: cschaffer@lfsblaw.com

14 **CUNEO GILBERT & ADUCA, LLP**

15 By: /s/ Charles LaDuca  
16 Charles LaDuca, Esq.  
17 *To be admitted pro hac vice*  
18 Brendan Thompson, Esq.  
19 *To be admitted pro hac vice*  
20 4725 Wisconsin Ave., NW, Ste. 200  
21 Washington, D.C. 20016  
22 T: (202) 789-3960  
23 Email: charles@cuneolaw.com  
24 Email: brendant@cuneolaw.com

25 **AUDET & PARTNERS LLP**

26 By: /s/ Michael McShane  
27 Michael McShane, Esq.  
28 711 Van Ness Ave., Ste. 500  
San Francisco, CA 94102  
T: (415) 568-2555  
Email: mmcshane@audetlaw.com

*Attorneys for Plaintiff*

**JURY DEMAND**

Plaintiff demands a trial by jury on all claims and issues for which a jury trial is available.

Dated: February 26, 2024

**THIGPEN LEGAL, P.C.**

By: /s/ Jordanna G. Thigpen  
Jordanna G. Thigpen  
9595 Wilshire Blvd. Suite 961  
Beverly Hills, CA 90212  
T: (310) 210-7491  
Email: jt@thigpenlegal.com

**HART MCLAUGHLIN & ELDRIDGE**

By: /s/ Stewart M. Weltman  
Steven A. Hart, Partner  
*To be admitted pro hac vice*  
Stewart M. Weltman, Of Counsel  
*To be admitted pro hac vice*  
One South Dearborn, Suite 1400  
Chicago, Illinois 60603  
T: (312) 955-0545  
Email: sweltman@hmelegal.com  
Email: shart@hmelegal.com

**LEVIN SEDRAN & BERMAN LLP**

By: /s/ Charles E. Schaffer  
Charles E. Schaffer, Esq.  
*To be admitted pro hac vice*  
  
510 Walnut St., Ste. 500  
Philadelphia, PA 19106  
T: (215) 592-1500  
Email: cschaffer@lfsblaw.com

**CUNEO GILBERT & ADUCA, LLP**

By: /s/ Charles LaDuca

Charles LaDuca, Esq.

*To be admitted pro hac vice*

Brendan Thompson, Esq.

*To be admitted pro hac vice*

4725 Wisconsin Ave., NW, Ste. 200

Washington, D.C. 20016

T: (202) 789-3960

Email: charles@cuneolaw.com

Email: brendant@cuneolaw.com

**AUDET & PARTNERS LLP**

By: /s/ Michael McShane

Michael McShane, Esq.

711 Van Ness Ave., Ste. 500

San Francisco, CA 94102

T: (415) 568-2555

Email: mmcshane@audetlaw.com

*Attorneys for Plaintiff*